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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/421,422	10/19/1999	PEHR B. HARBURY	8600-0197.30	4130

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EXAMINER

TRAN, MY CHAU T

ART UNIT	PAPER NUMBER
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1639

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/421,422

Applicant(s)

HARBURY ET AL.

Examiner

MY-CHAU T TRAN

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 15, and 16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Status of Claims

1. Applicant's amendment and response filed 03/29/2005 is acknowledged and entered. Claim 2 has been cancelled. Claims 1, 3, 4, 5, 6, and 9 have been amended. Claims 15, and 16 have been added.
2. Claims 1-16 are pending.

Election/Restrictions

3. Claims 11-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to ***nonelected inventions***, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/26/2001.
4. This application contains claims 11-14 are drawn to inventions nonelected **without** traverse in the reply filed on 3/26/2001. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.
5. Claims 1, 3-10, 15, and 16 are treated on the merit in this Office Action.

Priority

6. This application claims benefit to a provisional application under 35 U.S.C 119(e). The provisional application is 60/104,744 filed 10/19/1998.

7. Claims 1, 3-10, 15, and 16 are treated on the merit in this Office Action.

New Rejection(s) – Necessitated by Amendment

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1, 3-10, 15, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: The relationship among the claimed components, i.e. a plurality of first hybridization sequences, a mixture of different second hybridization sequences, and a chemical reaction site, of each subset of the nucleic acid tags. It unclear as to the a structural connection, i.e. a nexus, among these components such as the components produce a 'sequence' length for the nucleic acid tag wherein the first segment of the nucleic acid tag is the first hybridization sequence, the second segment of the nucleic acid tag is the second hybridization sequence, and the chemical reaction site is either at the first segment or the second segment, for example XXXXX (first hybridization sequence) –YYYYYY (second hybridization sequence)-Z (chemical reaction).

Art Unit: 1639

10. Claims 1, 3-10, 15, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: The relationship among the first immobilized nucleotide sequences, the second immobilized nucleotide sequences, and the reagent-specific compound intermediate. It is unclear as to the structural connection, i.e. a nexus, among the first immobilized nucleotide sequences, the second immobilized nucleotide sequences, and the reagent-specific compound intermediate.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. *The instant invention recites a method of tag-directed synthesis of a plurality of compounds. The method comprises the steps of (a) forming a first group of subsets of nucleic acid tags for participating in a first synthetic reaction step by contacting said nucleic acid tags with a plurality of first immobilized nucleotide sequences; (b) carrying out the first synthetic step by reacting the chemical reaction sites in each of the subsets formed in (a) with a selected one of a plurality of first reagents thereby to convert the reaction site in each tag to form a reagent-specific compound intermediate on the associated tag in each subset; (c) forming a second group of subsets of the reacted nucleic acid tags formed in step (b), for participation in a second synthetic reaction step by contacting said reacted nucleic acid tags with a plurality of second immobilized nucleotide sequences; and (d) carrying out the second synthetic step by reacting the compound intermediate in the associated tags in each of the subsets formed in (c) with a selected one of a plurality of second reagents.*

The nucleic acid tag in each subset each has a selected one of a plurality of different first hybridization sequences, a mixture of different second hybridization sequences, and a chemical reaction site. Each of the plurality of first immobilized nucleotide sequence is designed to capture a subset of said tags by hybridization between one of said tag first hybridization sequences and the associated first immobilized sequence. Each of the plurality of second immobilized nucleotide sequence is designed to capture a subset of said tags by hybridization between one of said tag second hybridization sequences and the associated second immobilized sequence.

Art Unit: 1639

13. Claims 1, 3-5, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Dehlinger (US Patent 5,723,320).

Dehlinger discloses the method of producing an array (see Abstract; col. 2, line 49 thru col. 3, line 4; col. 11, line 3 to col. 12, line 56; figs. 10-13). The method comprises the steps of 1) synthesizing the oligonucleotide probes on a four-sided solid support wherein each side comprises the oligonucleotide probes that differ from one another in one sequence position (refers to instant claimed first immobilized nucleotide sequences and second immobilized nucleotide sequences) (see e.g. col. 5, lines 53-62; col. 10, lines 56-67; col. 11, lines 20-36; fig. 10); 2) synthesizing the sets of gene-probe template wherein each template comprises nucleotide sequences that is complementary to the oligonucleotide probe on the support (refers to instant claimed sets of nucleic acid tags (col. 11, line 48 thru col. 12, line 3; fig. 11); 3) hybridizing the oligonucleotide probes on a solid support with one of the set of gene-probe templates (refers to instant claimed step (a)) (see e.g. col. 2, lines 58-67; col. 11, lines 16-19; col. 12, lines 4-15; figs. 12 and 13); and 4) the oligonucleotides probes on a solid support are the extended by strand-directed polymerization along the associated gene segments in the present of DNA polymerase to produce the double-stranded gene probes (refers to instant claimed step (b)) (see e.g. col. 3, lines 1-4; col. 11, lines 16-19; col. 12, lines 16-34; figs. 12 and 13); 5) the double-stranded gene probes are denatured and the template strands are release (see e.g. col. 12, lines 42-45). The final array comprises a substrate having a linear array of regions, i.e. the four sides of the solid support, wherein each region comprises a different sequence gene probe fragment, i.e. the method steps are repeated for each region using different oligonucleotide probes and set of gene-probe template (refers to instant claimed step (c) and (d), and claims 3-5, and 15) (see e.g. col.

Art Unit: 1639

11, lines 27-37; fig. 10). Thus, the method of Dehlinger anticipates the presently claimed method.

Withdrawn Rejection(s)

14. The rejections of claims 1-10 under 35 USC 112, first paragraph (written description) have been withdrawn in light of applicant's amendments of claims 1, 3, 4, 5, 6, and 9.

15. The rejections of claims 1-10 under 35 USC 112, second paragraph, as being indefinite have been withdrawn in light of applicant's amendments of claims 1, 3, 4, 5, 6, and 9.

16. The rejection of claims 1, and 3-6 under 35 USC 102(b) as being anticipated by Brenner et al. (*Proc. Natl. Acad. Sci.*, **1992**, 89(12), pgs. 5381-5383) has been withdrawn in light of applicant's amendments of claims 1, 3, 4, 5, 6, and 9.

17. The rejection of claims 1-10 under 35 USC 102(b) as being anticipated by Brenner (US Patent 5,604,097) has been withdrawn in light of applicant's amendments of claims 1, 3, 4, 5, 6, and 9.

18. The rejection of claims 1, and 7-10 under 35 USC 102(e) as being anticipated by Brenner (US Patent 5,962,228) has been withdrawn in light of applicant's amendments of claims 1, 3, 4, 5, 6, and 9.

Art Unit: 1639

Response to Arguments

19. Applicant's arguments with respect to claims 1, 3-10 have been considered but are moot in view of the new grounds of rejections.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Chau T. Tran whose telephone number is 571-272-0810. The examiner can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

Art Unit: 1639

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mct
June 7, 2005


PADMAASHRI PONNALURI
PRIMARY EXAMINER